10/568745

AP20 Rec'd PCT/PTO 21 FEB 2006

SEQUENCE LISTING

<110> TAKARA BIO INC.

<120> Process for the preparation of lymphocyte having cytotoxic activity

<130> 04-058-PCTJP

<150> JP 2003-298208

<151> 2003-08-22

<150> JP 2004-699

<151> 2004-01-05

<150> JP 2004-115648

<151> 2004-04-09

<150> JP 2004-222441

<151> 2004-07-29

<160> 29

<210> 1

<211> 87

<212> PRT

<213> Artificial Sequence

<220>

<223> partial region of fibronectin named 111-8

<400> 1

Pro Thr Asp Leu Arg Phe Thr Asn lie Gly Pro Asp Thr Met Arg

1 5 10 15

Val Thr Trp Ala Pro Pro Pro Ser ile Asp Leu Thr Asn Phe Leu

20 25 30

Val Arg Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu

35 40 45

Ser lle Ser Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu

50 55 60

Pro Gly Thr Glu Tyr Val Val Ser Val Ser Ser Val Tyr Glu Gln

65 70 75

His Glu Ser Thr Pro Leu Arg Gly Arg Gln Lys Thr

80 85

<210> 2

<211> 90

<212> PRT

<213> Artificial Sequence

<220>

<223> partial region of fibronectin named III-9

<400> 2

Gly Leu Asp Ser Pro Thr Gly lle Asp Phe Ser Asp lle Thr Ala

1 5 10 15

Asn Ser Phe Thr Val His Trp lle Ala Pro Arg Ala Thr lle Thr

20 25 30

Gly Tyr Arg Ile Arg His His Pro Glu His Phe Ser Gly Arg Pro

35 40 45

Arg Glu Asp Arg Val Pro His Ser Arg Asm Ser Ile Thr Leu Thr

50 55 60

Asn Leu Thr Pro Gly Thr Glu Tyr Val Val Ser lle Val Ala Leu

65 70 75

Asn Gly Arg Glu Glu Ser Pro Leu Leu Ile Gly Gln Gln Ser Thr

80 85 90

<210> 3

(211) 94

<212> PRT

<213> Artificial Sequence

<220>

<223> partial region of fibronectin named | | | -10

<400> 3

Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro

5 10 15 Thr Ser Leu Leu lle Ser Trp Asp Ala Pro Ala Val Thr Val Arg 20 25 Tyr Tyr Arg ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val 35 40 45 Gin Glu Phe Thr Val Pro Gly Ser Lys Ser Thr Ala Thr Ile Ser 50 55 60 Gly Leu Lys Pro Gly Val Asp Tyr Thr lle Thr Val Tyr Ala Val 65 70 75 Thr Gly Arg Gly Asp Ser Pro Ala Ser Ser Lys Pro Ile Ser Ile 80 85 90

<210> 4

Asn Tyr Arg Thr

<211> 84

<212> PRT

<213> Artificial Sequence

<220>

<223> partial region of fibronectin named III-11

<400> 4

Gin Met Gin Val Thr Asp Val Gin Asp Asn Ser lie Ser Val Lys

1 5 10 15

Trp Leu Pro Ser Ser Ser Pro Val Thr Gly Tyr Arg Val Thr Thr

20 25 30

Thr Pro Lys Asn Gly Pro Gly Pro Thr Lys Thr Lys Thr Ala Gly

35 40 45

Pro Asp Gln Thr Glu Met Thr lie Glu Gly Leu Gln Pro Thr Val

50 55 60

Glu Tyr Val Val Ser Val Tyr Ala Gln Asn Pro Ser Gly Glu Ser

65 70 75

Gin Pro Leu Val Gin Thr Ala Val Thr

80

<210> 5

(211) 92

<212> PRT

<213> Artificial Sequence

<220>

<223> partial region of fibronectin named III-12

35

<400> 5

 Aia Ile
 Pro Ala Pro Thr Asp Leu Lys
 Phe Thr Gin Val Thr Pro

 1
 5
 10

 Thr Ser Leu Ser Ala Gin Trp Thr Pro Pro Asn Val Gin Leu Thr

 20
 25

 25
 30

 Gly Tyr Arg Val Arg Val Thr Pro Lys Glu Lys Thr Gly Pro Met

5 / 4 6

45

40

Lys Glu lle Asn Leu Ala Pro Asp Ser Ser Val Val Val Ser 50 55 Gly Leu Met Val Ala Thr Lys Tyr Glu Val Ser Val Tyr Ala Leu 65 70 Lys Asp Thr Leu Thr Ser Arg Pro Ala Gin Gly Val Val Thr Thr 80 85 90

<210> 6

Leu Glu

<211> 89

<212> PRT

(213) Artificial Sequence

<220>

<223> partial region of fibronectin named III-13

<400> 6

Asn Val Ser Pro Pro Arg Arg Ala Arg Val Thr Asp Ala Thr Glu 1 . 5 10 Thr Thr Ile Thr Ile Ser Trp Arg Thr Lys Thr Glu Thr Ile Thr 20 25 Gly Phe Gln Val Asp Ala Val Pro Ala Asn Gly Gln Thr Pro Ile 35 40 45 Gin Arg Thr Ile Lys Pro Asp Val Arg Ser Tyr Thr Ile Thr Gly 50

60

55

Leu Gin Pro Gly Thr Asp Tyr Lys lie Tyr Leu Tyr Thr Leu Asn
65 70 75

Asp Asn Ala Arg Ser Ser Pro Val Val lie Asp Ala Ser Thr

80 85

<210> 7

<211> 90

<212> PRT

<213> Artificial Sequence

<220>

<223> partial region of fibronectin named | | 11-14

<400> 7

Ala lie Asp Ala Pro Ser Asn Leu Arg Phe Leu Ala Thr Thr Pro

1 5 10 15

Asn Ser Leu Leu Val Ser Trp Gln Pro Pro Arg Ala Arg lie Thr
20 25 30

Gly Tyr Ile Ile Lys Tyr Glu Lys Pro Gly Ser Pro Pro Arg Glu
35 40 45

Val Val Pro Arg Pro Arg Pro Gly Val Thr Glu Ala Thr lle Thr

50 55 60

Gly Leu Glu Pro Gly Thr Glu Tyr Thr lle Tyr Val lle Ala Leu
65 70 75

Lys Asn Asn Gln Lys Ser Glu Pro Leu lle Gly Arg Lys Thr

<210> 8

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> partial region of fibronectin named CS-1

<400> 8

Asp Glu Leu Pro Gln Leu Val Thr Leu Pro His Pro Asn Leu His

5

10

15

Gly Pro Glu ile Leu Asp Val Pro Ser Thr

20

25

<210> 9

<211> 274

<212> PRT

<213> Human

<220>

<223> fibronectin fragment named C-274

| Pro | Thr | Asp | Leu | Arg | Phe | Thr | Asn | He | Gly | Pro | Asp | Thr | Met | Arg |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | | | | 5 | | | | | 10 | | | | | 15 |
| Val | Thr | Trp | Ala | Pro | Pro | Pro | Ser | Пe | Asp | Leu | Thr | Asn | Phe | Leu |
| | | | | 20 | | | | | 25 | | | | | 30 |
| Val | Arg | Tyr | Ser | Pro | Val | Lys | Asn | Glu | Glu | Asp | Val | Ala | Glu | Leu |
| | | | | 35 | | | | | 40 | | | | | 45 |
| Ser | He | Ser | Pro | Ser | Asp | Asn | Ala | Val | Val | Leu | Thr | Asn | Leu | Leu |
| | | | | 50 | | | | | 55 | | | | | 60 |
| Pro | Gly | Thr | Glu | Tyr | Val | Val | Ser | Val | Ser | Ser | Val | Tyr | Glu | Gin |
| | | | | 65 | | | | | 70 | | | | | 75 |
| His | Glu | Ser | Thr | Pro | Leu | Arg | Gly | Arg | Gln | Lys | Thr | Gly | Leu | Asp |
| | | | | 80 | | | | | 85 | | | | | 90 |
| Ser | Pro | Thr | Gly | He | Asp | Phe | Ser | Asp | He | Thr | Ala | Asn | Ser | Phe |
| | | | | 95 | | | | | 100 | | | | | 105 |
| Thr | Val | His | Trp | lle | Ala | Pro | Arg | Ala | Thr | lle | Thr | Gly | Tyr | Arg |
| | | | | 110 | | | | | 115 | | | | | 120 |
| He | Arg | His | His | Pro | Glu | His | Phe | Ser | Giy | Arg | Pro | Arg | Glu | Asp |
| | | | | 125 | | | | | 130 | | | | | 135 |
| Arg | Val | Pro | His | Ser | Arg | Asn | Ser | lle | Thr | Leu | Thr | Asn | Leu | Thr |
| | | | | 140 | | | | | 145 | | | | | 150 |
| Pro | Gly | Thr | Glu | | Val | Val | Ser | lle | | Ala | Leu | Asn | Gly | |
| | | | | 155 | | | | | 160 | | | | | 165 |
| Glu | Glu | Ser | Pro | | Leu | lle | Gly | Gln | | Ser | Thr | Val | Ser | |
| | | | | 170 | | | | | 175 | | | | | 180 |
| Val | Pro | Arg | Asp | Leu | Glu | Vai | Val | Ala | Ala | Thr | Pro | Thr | Ser | Leu |

185 190 195 Leu lie Ser Trp Asp Ala Pro Ala Val Thr Val Arg Tyr Tyr Arg 200 205 210 lle Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe 215 220 225 Thr Val Pro Gly Ser Lys Ser Thr Ala Thr lle Ser Gly Leu Lys 230 235 240 Pro Gly Val Asp Tyr Thr lle Thr Val Tyr Ala Val Thr Gly Arg 255 245 250 Gly Asp Ser Pro Ala Ser Ser Lys Pro Ile Ser Ile Asn Tyr Arg

265

270

15

Thr Glu lle Asp

<210> 10

<211> 271

<212> PRT

<213> Human

<220>

<223> fibronectin fragment named H-271

260

<400> 10

Ala Ile Pro Ala Pro Thr Asp Leu Lys Phe Thr Gin Val Thr Pro

1 5 10

Thr Ser Leu Ser Ala Gin Trp Thr Pro Pro Asn Val Gin Leu Thr

| | | | | 20 | | | | | 25 | | | | | 30 | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-------|--|
| Gly | Tyr | Arg | Vai | Arg | Val | Thr | Pro | Lys | Glu | Lys | Thr | Gly | Pro | Met | |
| | | | | 3 5 | | | | | 40 | | | | | 45 | |
| Lys | Glu | He | Asn | Leu | Ala | Pro | Asp | Ser | Ser | Ser | Val | Val | Val | Ser | |
| | | | | 50 | | | | | 5 5 | | | | | 60 | |
| Gly | Leu | Met | Val | Ala | Thr | Lys | Tyr | Glu | Val | Ser | Val | Tyr | Ala | Leu | |
| | | • | | 6 5 | | | | | 70 | | | | | 75 | |
| Lys | Asp | Thr | Leu | Thr | Ser | Arg | Pro | Ala | GIn | Gly | Val | Val | Thr | Thr | |
| | | | | 80 | | | • | | 85 | | | | | 90 | |
| Leu | Glu | Asn | Vai | Ser | Pro | Pro | Arg | Arg | Ala | Arg | Val | Thr | Asp | Ala | |
| | | | | 95 | | | | | 100 | | | | | 105 | |
| Thr | Glu | Thr | Thr | lle | Thr | lle | Ser | Trp | Arg | Thr | Lys | Thr | Glu | Thr | |
| | | | | 110 | | | | | 115 | | | | | 120 | |
| lle | Thr | Gly | Phe | GIn | Val | Asp | Ala | Val | Pro | Ala | Asn | Gly | GIn | Thr | |
| | | | | 125 | | | | | 130 | | | | | 135 | |
| Pro | lle | GIn | Arg | Thr | lle | Lys | Pro | Asp | Val | Arg | Ser | Tyr | Thr | l I e | |
| | | | | 140 | | | | | 145 | | | | | 150 | |
| Thr | Gly | Leu | GIn | Pro | Gly | Thr | Asp | Tyr | Lys | 1 l e | Tyr | Leu | Tyr | Thr | |
| | | | | 155 | | | | | 160 | | | | | 165 | |
| Leu | Asn | Asp | Asn | Ala | Arg | Ser | Ser | Pro | Val | Val | lle | Asp | Ala | Ser | |
| | | | | 170 | • | | | | 175 | | | | | 180 | |
| Thr | Ala | lle | Asp | Ala | Pro | Ser | Asn | Leu | Arg | Phe | Leu | Ala | Thr | Thr | |
| | | | | 185 | | | | | 190 | | | | | 195 | |
| Pro | Asn | Ser | Leu | Leu | Val | Ser | Trp | GIn | Pro | Pro | Arg | Ala | Arg | lle | |
| | | | | 200 | | | | | 205 | | | | | 210 | |
| Thr | GIV | Tvr | He | He | lve | Tvr | Glo | lvs | Pro | GIV | Ser | Pro | Pro | Ara | |

215 220 225 Glu Val Val Pro Arg Pro Arg Pro Gly Val Thr Glu Ala Thr Ile 230 235 240 Thr Gly Leu Glu Pro Gly Thr Glu Tyr Thr 11e Tyr Val 11e Ala 245 250 255 Leu Lys Asn Asn Gln Lys Ser Glu Pro Leu lle Gly Arg Lys 260 265 270

Thr

<210> 11

<211> 296

<212> PRT

<213> Artificial Sequence

<220>

<223> fibronectin fragment named H-296

20

35

<400> 11

Ala lle Pro Ala Pro Thr Asp Leu Lys Phe Thr Gln Val Thr Pro 5 1

Thr Ser Leu Ser Ala Gln Trp Thr Pro Pro Asn Val Gln Leu Thr

25 30

10

Gly Tyr Arg Val Arg Val Thr Pro Lys Glu Lys Thr Gly Pro Met

40 45

Lys Giu lle Asn Leu Ala Pro Asp Ser Ser Ser Val Val Val Ser

| | | | | 50 | | | | | 55 | | | | | 60 |
|------------|------------|-----|-------|-------|-----|-----|-----|-----|-----|------------|----------|-----|-------|-----|
| Gly | Leu | Met | V a I | Ala | Thr | Lys | Tyr | Glu | Val | Ser | Val | Tyr | Ala | Leu |
| | | | | . 6 5 | | | | | 70 | | | | | 75 |
| Lys | Asp | Thr | Leu | Thr | Ser | Arg | Pro | Ala | GIn | Gly | Val | Val | Thr | Thr |
| | | | | 80 | | | | | 85 | | | | | 90 |
| Leu | Glu | Asn | V a I | Ser | Pro | Pro | Arg | Arg | Ala | Arg | Val | Thr | Asp | Αla |
| | | | | 95 | | | | | 100 | | | | | 105 |
| Thr | Glu | Thr | Thr | lle | Thr | lle | Ser | Trp | Arg | Thr | Lys | Thr | Glu | Thr |
| | | | | 110 | | | | | 115 | | | | | 120 |
| l I e | Thr | Gly | Phe | Gln | Val | Asp | Ala | Val | Pro | Ala | Asn | Gly | Gln | Thr |
| | | | | 125 | | | | | 130 | | | | | 135 |
| Pro | 11e | Gln | Arg | Thr | He | Lys | Pro | Asp | Val | Arg | Ser | Tyr | Thr | lle |
| | | | | 140 | | | | | 145 | | • | | | 150 |
| Thr | Gly | Leu | Gln | Pro | Gly | Thr | Asp | Tyr | Lys | Пe | Tyr | Leu | Tyr | Thr |
| | | | | 155 | | | | | 160 | | | | | 165 |
| Leu | Asn | Asp | Asn | Ala | Arg | Ser | Ser | Pro | Val | Val | lie | Asp | Ala | |
| | | | | 170 | | | | | 175 | | | | | 180 |
| Thr | Ala | lle | Asp | | Pro | Ser | Asn | Leu | | Phe | Leu | Ala | Thr | |
| | | | | 185 | | | | | 190 | | | | | 195 |
| Pro | Asn | Ser | Leu | | Val | Ser | Trp | GIn | | Pro | Arg | Ala | Arg | |
| | | | | 200 | | _ | | | 205 | | _ | _ | _ | 210 |
| Thr | Gly | Tyr | lle | | Lys | Tyr | Glu | Lys | | Gly | Ser | Pro | Pro | |
| . . | 34 - 1 | M ! | D | 215 | | 1 | D . | 0.1 | 220 | T . | 0.1 | | T. | 225 |
| Glu | Val | Val | Pro | | Pro | Arg | Pro | GTY | | Ihr | Glu | Ala | ihr | |
| TL | C . | • | C I | 230 | C 1 | Tt | 01 | T | 235 | | T | Vel | 11- | 240 |
| ınr | Gly | Leu | ៤៧ | rro | uly | ınr | ៤៧ | ıyr | INT | 11e | ıyr | vai | ı ı e | АІА |

245 250 255

Leu Lys Asn Asn Gln Lys Ser Glu Pro Leu IIe Gly Arg Lys Lys
260 265 270

Thr Asp Glu Leu Pro Gln Leu Val Thr Leu Pro His Pro Asn Leu
275 280 285

His Gly Pro Glu IIe Leu Asp Val Pro Ser Thr
290 295

<210> 12

<211> 549

<212> PRT

<213> Artificial Sequence

(220>

<223> fibronectin fragment named CH-271

<400> 12 ·

Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro Asp Thr Met Arg 5 1 10 15 Val Thr Trp Ala Pro Pro Pro Ser IIe Asp Leu Thr Asn Phe Leu 20 25 Val Arg Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu 35 40 45 Ser lie Ser Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu 50 55 60

| Pro | Gly | Thr | Glu | Tyr | Val | Val | Ser | Val | Ser | Ser | Val | Tyr | Glu | Gin |
|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | | 65 | | | | | 70 | | | | | 75 |
| His | Glu | Ser | Thr | Pro | Leu | Arg | Gly | Arg | GIn | Lys | Thr | Gly | Leu | Asp |
| | | | | 80 | | | | | 8 5 | | | | | 90 |
| Ser | Pro | Thr | Gly | lle | Asp | Phe | Ser | Asp | lle | Thr | Ala | Asn | Ser | Phe |
| | | | | 95 | | | | | 100 | | | | | 105 |
| Thr | Val | His | Trp | Пе | Ala | Pro | Arg | Ala | Thr | He | Thr | Gly | Tyr | Arg |
| | | | | 110 | | | | | 115 | | | | | 120 |
| lle | Arg | His | His | Pro | Glu | His | Phe | Ser | Gly | Arg | Pro | Arg | Glu | Asp |
| | | | | 125 | | | | | 130 | | | | | 135 |
| Arg | Val | Pro | His | Ser | Arg | Asn | Ser | 11e | Thr | Leu | Thr | Asn | Leu | Thr |
| | | | | 140 | | | | | 145 | | | | | 150 |
| Pro | Gly | Thr | Glu | Tyr | Val | V a I | Ser | Пe | Val | Ala | Leu | Asn | Gly | Arg |
| | | | | 155 | | | | | 160 | | | | | 165 |
| Glu | Glu | Ser | Pro | Leu | Leu | lle | Gly | GIn | Gln | Ser | Thr | Val | Ser | Asp |
| | | | | 170 | | | | | 175 | | | | | 180 |
| Val | Pro | Arg | Asp | Leu | Glu | Val | Val | Ala | Ala | Thr | Pro | Thr | Ser | Leu |
| | | | | 185 | | | | | 190 | | - | | | 195 |
| Leu | lle | Ser | Trp | Asp | Ala | Pro | Ala | Val | Thr | Val | Arg | Tyr | Tyr | Arg |
| | | | | 200 | | | | | 205 | | • | | ٠ | 210 |
| He | Thr | Tyr | Gly | Glu | Thr | Gly | Gly | Asn | Ser | Pro | Val | Gln | Glu | Phe |
| | | | | 215 | | | | | 220 | | | | | 225 |
| Thr | Val | Pro | Gly | Ser | Lys | Ser | Thr | Ala | Thr | lle | Ser | Gly | Leu | Lys |
| | | | | 230 | | | | | 235 | | | | | 240 |
| Pro | Gly | Val | Asp | Tyr | Thr | lle | Thr | Val | Tyr | Ala | Val | Thr | Gly | Arg |
| | | | | 245 | | | | | 250 | | | | | 255 |

| Gly | Asp | Ser | Pro | Ala | Ser | Ser | Lys | Pro | Пe | Ser | lle | Asn | Tyr | Arg |
|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|-----|-------|-----|-----|-----|
| | | | | 260 | | | | | 265 | | | | | 270 |
| Thr | Glu | lle | Asp | Lys | Pro | Ser | Met | Ala | lle | Pro | Ala | Pro | Thr | Asp |
| | | | | 275 | | | | | 280 | | | | | 285 |
| Leu | Lys | Phe | Thr | GIn | Vai | Thr | Pro | Thr | Ser | Leu | Ser | Ala | GIn | Trp |
| | | | | 290 | | | | | 295 | | | | | 300 |
| Thr | Pro | Pro | Asn | Val | GIn | Leu | Thr | Gly | Tyr | Arg | V a I | Arg | Val | Thr |
| | | | | 305 | | | | | 310 | | | | | 315 |
| Pro | Lys | Glu | Lys | Thr | Gly | Pro | Met | Lys | Glu | lle | Asn | Leu | Ala | Pro |
| | | | | 320 | | | | | 325 | | | | | 330 |
| Asp | Ser | Ser | Ser | Val | Val | Val | Ser | Gly | Leu | Met | Val | Ala | Thr | Lys |
| | | | | 335 | | | | | 340 | | | | | 345 |
| Tyr | Glu | Val | Ser | Val | Tyr | Ala | Leu | Lys | Asp | Thr | Leu | Thr | Ser | Arg |
| | | | | 350 | | | | | 355 | | | | | 360 |
| Pro | Ala | Gin | Gly | Val | Val | Thr | Thr | Leu | Glu | Asn | Val | Ser | Pro | Pro |
| | | | | 365 | | | | | 370 | | | | | 375 |
| Arg | Arg | Ala | Arg | Val | Thr | Asp | Ala | Thr | Glu | Thr | Thr | lle | Thr | lle |
| | | | | 380 | | | | | 385 | | | | | 390 |
| Ser | Trp | Arg | Thr | Lys | Thr | Glu | Thr | 1 I e | Thr | Gly | Phe | GIn | Val | Asp |
| | | | | 395 | | | | | 400 | | | | | 405 |
| Ala | Val | Pro | Ala | | Gly | GIn | Thr | Pro | lle | Gln | Arg | Thr | lle | Lys |
| | | | | 410 | | | | • | 415 | | | | | 420 |
| Pro | Asp | Val | Arg | Ser | Tyr | Thr | lle | Thr | | Leu | Gln | Pro | Gly | Thr |
| | | | | 425 | | | | | 430 | | | | | 435 |
| Asp | Tyr | Lys | 11e | - | Leu | Tyr | Thr | Leu | Asn | Asp | Asn | Ala | Arg | Ser |
| | | | | 440 | | | | | 445 | | | | | 450 |

Ser Pro Val Val lle Asp Ala Ser Thr Ala lle Asp Ala Pro Ser 455 460 465 Asn Leu Arg Phe Leu Ala Thr Thr Pro Asn Ser Leu Leu Val Ser 470 475 Trp Gin Pro Pro Arg Ala Arg lie Thr Gly Tyr lie lie Lys Tyr 485 490 495 Glu Lys Pro Gly Ser Pro Pro Arg Glu Val Val Pro Arg Pro Arg 500 505 510 Pro Gly Val. Thr Glu Ala Thr Ile Thr Gly Leu Glu Pro Gly Thr 515 520 525 Glu Tyr Thr lie Tyr Vai lle Ala Leu Lys Asn Asn Gln Lys Ser 530 535 540 Glu Pro Leu Ile Gly Arg Lys Lys Thr 545

<210> 13

<211> 574

<212> PRT

<213> Artificial Sequence

(220)

<223> fibronectin fragment named CH-296

<400> 13

Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro Asp Thr Met Arg

| 1 | | | | 5 | | | | | 10 | | | | | 15 |
|-----|-----|-----|-----|-----|-------|-----|-----|-------|-------|-----|-----|-----|-----|-----|
| Val | Thr | Trp | Ala | Pro | Pro | Pro | Ser | He | Asp | Leu | Thr | Asn | Phe | Leu |
| | | | | 20 | | | • | | 2 5 | | | | | 30 |
| Val | Arg | Tyr | Ser | Pro | V a I | Lys | Asn | Glu | Glu | Asp | Val | Ala | Glu | Leu |
| | | | | 35 | | | | | 40 | | | | | 45 |
| Ser | He | Ser | Pro | Ser | Asp | Asn | Ala | Val | V a I | Leu | Thr | Asn | Leu | Leu |
| | | | | 50 | | | | | 5 5 | | | | | 60 |
| Pro | Gly | Thr | Glu | Tyr | V a I | Val | Ser | Val | Ser | Ser | Val | Tyr | Glu | GIn |
| | | | | 65 | | | | | 70 | | | | | 75 |
| His | Glu | Ser | Thr | Pro | Leu | Arg | Gly | Arg | Gln | Lys | Thr | Gly | Leu | Asp |
| | | | | 80 | | | | | 85 | | | | | 90 |
| Ser | Pro | Thr | Gly | lle | Asp | Phe | Ser | Asp | lle | Thr | Ala | Asn | Ser | Phe |
| | | | | 95 | | | | | 100 | | | | | 105 |
| Thr | Val | His | Trp | lle | Ala | Pro | Arg | Ala | Thr | He | Thr | Gly | Tyr | Arg |
| | | | | 110 | | | | | 115 | | | | | 120 |
| lle | Arg | His | His | Pro | Glu | His | Phe | Ser | Gly | Arg | Pro | Arg | Glu | Asp |
| | | | | 125 | | | | | 130 | | | | | 135 |
| Arg | Val | Pro | His | Ser | Arg | Asn | Ser | lle | Thr | Leu | Thr | Asn | Leu | Thr |
| | | | | 140 | | | | | 145 | | | | | 150 |
| Pro | Gly | Thr | Glu | Tyr | Val | Val | Ser | lle | Val | Ala | Leu | Asn | Gly | Arg |
| | | | | 155 | | | | | 160 | | | | | 165 |
| Glu | Glu | Ser | Pro | Leu | Leu | lle | Gly | Gin | Gln | Ser | Thr | Val | Ser | Asp |
| | | | | 170 | | | | | 175 | | | | | 180 |
| Val | Pro | Arg | Asp | Leu | Glu | Val | Val | Ala | Ala | Thr | Pro | Thr | Ser | Leu |
| | | | | 185 | | | | | 190 | | | | | 195 |
| Leu | lle | Ser | Trp | Asp | Ala | Pro | Ala | V a I | Thr | Val | Arg | Tyr | Tyr | Arg |

| | | | | 200 | | | | | 205 | | | | | 210 | | |
|------|-----|-------|-------|-------------|--------|-------|------|--------|-----|-------|--------|------|-------|------------|---|--|
| He | Thr | Tyr | Giy | Glu | Thr | Gly | Gly | Asn | Ser | Pro | Val | Gln | Glu | Phe | | |
| | | | | 215 | | | | | 220 | | | | | 225 | | |
| Thr | Val | Pro | Gly | Ser | Lys | Ser | Thr | Ala | Thr | lle | Ser | Gly | Leu | Lys | | |
| | | | | 230 | | | | | 235 | | | | | 240 | i | |
| Pro | Gly | Val | Asp | Tyr | Thr | lle | Thr | Vai | Tyr | Ala | Val | Thr | Gly | Arg | | |
| | | | | 245 | | | | | 250 | | | | | 255 | | |
| Gly | Asp | Ser | Pro | Ala | Ser | Ser | Lys | Pro | lle | Ser | lle | Asn | Tyr | Arg | | |
| | | | | 260 | | | | | 265 | | | | | 270 | | |
| Thr | Glu | l l e | Asp | Lys | Pro | Ser | Met | Ala | lie | Pro | Ala | Pro | Thr | Asp | | |
| | | | | 275 | | | | | 280 | | | | | 285 | | |
| Leu | Lys | Phe | Thr | GIn | Vai | Thr | Pro | Thr | Ser | Leu | Ser | Ala | GIn | Trp | | |
| | | | | 290 | | | | | 295 | | | | | 300 | | |
| Thr | Pro | Pro | Asn | Val | Gln | Leu | Thr | Gly | | Arg | Vai | Arg | Val | Thr | | |
| | | | | 305 | | | | | 310 | | | | | 315 | | |
| Pro | Lys | Glu | Lys | Thr | Gly | Pro | Met | Lys | | lle | Asn | Leu | Ala | | | |
| | | | | 320 | | | | | 325 | | | | | 330 | | |
| Asp | Ser | Ser | Ser | Val | Val | Val | Ser | Gly | | Met | Val | Ala | Thr | | | |
| T | C 1 | W = 1 | C | 335 | T | | | | 340 | 71 | | | • | 345 | | |
| ıyr | GIU | Vai | 261 | Val | ıyr | на | Leu | Lys | | ınr | Leu | inr | Ser | | | |
| Pro | Λla | Cln | CLv | 350 Val | Val | The | The | Lau | 355 | 4.0.5 | Val | ٠ | D | 360 Dec | | |
| 110 | ліа | uill | uiy | Va I 365 | val | 1111 | 1111 | Leu | 370 | W2II | vai | ser | rr0 | - | | |
| Δrσ | Δrσ | Δla | Δrσ | Val | Thr | Asn | Δla | The | | Thr | Th- | 110 | Th- | 375 | | |
| NI B | NIB | nia | A 1 6 | 380 | 1 11 1 | nop | nia | 1 11 1 | 385 | 1111 | 1111 | 116 | 1111 | 390 | | |
| Ser | Trn | Arø | Thr | Lys | Thr | Glu | Thr | ماا | | Glv | Dha | Gin | Val | | | |
| 001 | p | 5 | | _ , , | | J 1 U | | , , , | | u 1 J | 1 11 6 | GIII | 1 4 1 | nsp | | |

| | | | | 395 | | | • | | 400 | | | | | 405 |
|-----|-----|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Val | Pro | Ala | Asn | Gly | GIn | Thr | Pro | Пe | Gln | Arg | Thr | lle | Lys |
| | | | | 410 | | | | | 415 | | | | | 420 |
| Pro | Asp | Val | Arg | Ser | Tyr | Thr | lle | Thr | Gly | Leu | GIn | Pro | Gly | Thr |
| | | | | 425 | • | | | | 430 | | | | | 435 |
| Asp | Tyr | Lys | l·l e | Tyr | Leu | Tyr | Thr | Leu | Asn | Asp | Asn | Ala | Arg | Ser |
| | | | | 440 | | | | | 445 | | | | | 450 |
| Ser | Pro | Val | Val | lle | Asp | Ala | Ser | Thr | Ala | lle | Asp | Ala | Pro | Ser |
| | | | | 455 | | | | | 460 | | | | | 465 |
| Asn | Leu | Arg | Phe | Leu | Ala | Thr | Thr | Pro | Asn | Ser | Leu | Leu | Val | Ser |
| | | | | 470 | | | | | 475 | | | | | 480 |
| Trp | Gln | Pro | Pro | Arg | Ala | Arg | 11e | Thr | Gly | Tyr | lle | lle | Lys | Tyr |
| | | | | 485 | | | | | 490 | | | | | 495 |
| Glu | Lys | Pro | Gly | Ser | Pro | Pro | Arg | Glu | Val | Val | Pro | Arg | Pro | Arg |
| | | | | 500 | | | | | 505 | | | | | 510 |
| Pro | Gly | V a I | Thr | Glu | Ala | Thr | lle | Thr | Gly | Leu | Glu | Pro | Gly | Thr |
| | | | | 515 | | | | | 520 | | | | | 525 |
| Glu | Tyr | Thr | lle | Tyr | Val | lle | Ala | Leu | Lys | Asn | Asn | GIn | Lys | Ser |
| | | | | 530 | | | | | 535 | | | | | 540 |
| Glu | Pro | Leu | Пе | Gly | Arg | Lys | Lys | Thr | Asp | Glu | Leu | Pro | GIn | Leu |
| | | | | 545 | | | | | 550 | | | | | 555 |
| Val | Thr | Leu | Pro | His | Pro | Asn | Leu | His | Gly | Pro | Glu | lle | Leu | Asp |
| | | | | 560 | | | | | 565 | | | | | 570 |

Val Pro Ser Thr

<210> 14

<211> 302

<212> PRT

<213> Artificial Sequence

<220>

<223> fibronectin fragment named C-CS1

20

<400> 14

Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro Asp Thr Met Arg

5 10 15

Val Thr Trp Ala Pro Pro Pro Ser Ile Asp Leu Thr Asn Phe Leu

25 30

Val Arg Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu

35 40 45

Ser Ile Ser Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu

50 55 60

Pro Gly Thr Glu Tyr Val Val Ser Val Ser Ser Val Tyr Glu Gln

65 70 75

His Glu Ser Thr Pro Leu Arg Gly Arg Gln Lys Thr Gly Leu Asp

0 85 90

Ser Pro Thr Gly Ile Asp Phe Ser Asp Ile Thr Ala Asn Ser Phe

95 100 105

Thr Val His Trp 11e Ala Pro Arg Ala Thr 11e Thr Gly Tyr Arg

110 115 120

lle Arg His His Pro Glu His Phe Ser Gly Arg Pro Arg Glu Asp

| | | | | 125 | | | | | 130 | | | | | 135 |
|-----|-------|-----|-----|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | V a I | Pro | His | Ser | Arg | Asn | Ser | lle | Thr | Leu | Thr | Asn | Leu | Thr |
| | | | | 140 | | | | | 145 | | | | | 150 |
| Pro | Gly | Thr | Glu | Tyr | Val | V a I | Ser | lle | Val | Ala | Leu | Asn | Gly | Arg |
| | | | | 155 | | | | | 160 | | | | | 165 |
| Glu | Glu | Ser | Pro | Leu | Leu | lle | Gly | Gln | GIn | Ser | Thr | Val | Ser | Asp |
| | | | | 170 | | | | | 175 | | | | | 180 |
| Val | Pro | Arg | Asp | Leu | Glu | Val | Vai | Ala | Ala | Thr | Pro | Thr | Ser | Leu |
| | | | | 185 | | | | | 190 | | | | | 195 |
| Leu | Пe | Ser | Trp | Asp | Ala | Pro | Ala | Val | Thr | Val | Arg | Tyr | Tyr | Arg |
| | | | | 200 | | | | | 205 | | | | | 210 |
| lle | Thr | Tyr | Gly | Glu | Thr | Gly | Gly | Asn | Ser | Pro | Val | Gln | Glu | Phe |
| | | | | 215 | | | | | 220 | | | | | 225 |
| Thr | V a I | Pro | Gly | Ser | Lys | Ser | Thr | Ala | Thr | Пе | Ser | Gly | Leu | Lys |
| | | | | 230 | | | | | 235 | | | | | 240 |
| Pro | Gly | Val | Asp | Tyr | Thr | lle | Thr | Val | Tyr | Ala | Val | Thr | Gly | Arg |
| | | | | 245 | | | | | 250 | | | | | 255 |
| Gly | Asp | Ser | Pro | Ala | Ser | Ser | Lys | Pro | lle | Ser | lle | Asn | Tyr | Arg |
| | | | | 260 | | | | | 265 | | | | | 270 |
| Thr | Glu | lle | Asp | Lys | Pro | Ser | Asp | Glu | Leu | Pro | GIn | Leu | Val | Thr |
| | | | | 275 | | | | | 280 | | | | | 285 |
| Leu | Pro | His | Pro | Asn | Leu | His | Gly | Pro | Glu | lle | Leu | Asp | Val | Pro |
| | | | | 290 | | | | | 295 | | | | | 300 |
| Ser | Thr | | | | | | | | | | | | | |

<210> 15

(211) 367

<212> PRT

<213> Artificial Sequence

<220>

<223> fibronectin fragment named CHV-89

20

50

80

<400> 15

Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro Asp Thr Met Arg

5 10 15

Vai Thr Trp Ala Pro Pro Pro Ser lie Asp Leu Thr Asn Phe Leu

25 30

Val Arg Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu

35 40 45

Ser lle Ser Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu

55 60

Pro Gly Thr Glu Tyr Val Val Ser Val Ser Ser Val Tyr Glu Gln

65 70 75

His Glu Ser Thr Pro Leu Arg Gly Arg Gln Lys Thr Gly Leu Asp

85

Ser Pro Thr Gly Ile Asp Phe Ser Asp Ile Thr Ala Asn Ser Phe

95 100 105

Thr Val His Trp lle Ala Pro Arg Ala Thr lle Thr Gly Tyr Arg

110 115 120

lle Arg His His Pro Glu His Phe Ser Gly Arg Pro Arg Glu Asp

| | | | | 125 | | • | | | 130 | | | | | 135 |
|-------|-----|-----|-----|-----|-----|-------|-------|-----|-----|-----|-----|-----|-----|-------|
| Arg | Val | Pro | His | Ser | Arg | Asn | Ser | lle | Thr | Leu | Thr | Asn | Leu | Thr |
| | | | | 140 | | | | | 145 | | | | | 150 |
| Pro | Gly | Thr | Glu | Tyr | Val | V a I | Ser | Нe | Vai | Ala | Leu | Asn | Gly | Arg |
| | | | | 155 | | | | | 160 | | | | | 165 |
| Glu | Glu | Ser | Pro | Leu | Leu | lle | Gly | Gin | GIn | Ser | Thr | Val | Ser | Asp |
| | | | | 170 | | | | | 175 | | | | | 180 |
| V a I | Pro | Arg | Asp | Leu | Glu | Val | V a I | Ala | Ala | Thr | Pro | Thr | Ser | Leu |
| | | | | 185 | | | | | 190 | | | | | 195 |
| Leu | 11e | Ser | Trp | Asp | Ala | Pro | Ala | Val | Thr | Val | Arg | Tyr | Tyr | Arg |
| | | | | 200 | | | | | 205 | | | | | 210 |
| Пe | Thr | Tyr | Gly | Glu | Thr | Gly | Gly | Asn | Ser | Pro | Val | GIn | Glu | Phe |
| | | | | 215 | | | | | 220 | | | | | 225 |
| Thr | Val | Pro | Gly | Ser | Lys | Ser | Thr | Ala | Thr | He | Ser | Gly | Leu | Lys |
| • | | | | 230 | | | | | 235 | | | | | 240 |
| Pro | Gly | Val | Asp | Tyr | Thr | lle | Thr | Val | Tyr | Ala | Val | Thr | Gly | Arg |
| | | | | 245 | | | | | 250 | | | | | 255 |
| Gly | Asp | Ser | Pro | Ala | Ser | Ser | Lys | Pro | lle | Ser | lle | Asn | Tyr | Arg |
| | | | | 260 | | | | | 265 | | | | | 270 |
| Thr | Glu | lle | Asp | Lys | Pro | Ser | Met | Asn | Val | Ser | Pro | Pro | Arg | Arg |
| | | | | 275 | | | | | 280 | | | | | 285 |
| Ala | Arg | Val | Thr | Asp | Ala | Thr | Glu | Thr | Thr | lle | Thr | He | Ser | Trp |
| | | | | 290 | | · | | | 295 | | | | | 300 |
| Arg | Thr | Lys | Thr | | Thr | lle | Thr | Gly | | GIn | Val | Asp | Ala | V a 1 |
| | | | | 305 | | | | | 310 | | | | | 315 |
| Pro | Ala | Asn | Gly | GIn | Thr | Pro | Пe | GIn | Arg | Thr | Пe | Lys | Pro | Asp |

 Val Arg
 Ser Tyr Thr Ile Thr Gly Leu Gln Pro Gly Thr Asp Tyr

 335
 345

 Lys Ile Tyr Leu Tyr Thr Leu Asn Asp Asn Ala Arg Ser Ser Pro
 350

 Val Val Ile Asp Ala Ser Thr

<210> 16

<211> 368

<212> PRT

<213> Artificial Sequence

<220>

<223> fibronectin fragment named CHV-90

365

<400> 16

Pro Thr Asp Leu Arg Phe Thr Asn IIe Gly Pro Asp Thr Met Arg

1 5 10 15

Val Thr Trp Ala Pro Pro Pro Ser IIe Asp Leu Thr Asn Phe Leu
20 25 30

Val Arg Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu
35 40 45

Ser IIe Ser Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu
50 55 60

| Pro | Gly | Thr | Glu | Tyr | Val | Val | Ser | Val | Ser | Ser | Val | Tyr | Glu | GIn |
|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-----|-----|-----|
| | | | | 65 | | | | | 70 | | | | | 75 |
| His | Glu | Ser | Thr | Pro | Leu | Arg | Gly | Arg | Gln | Lys | Thr | Gly | Leu | Asp |
| | | | | 80 | | | | | 85 | | | | | 90 |
| Ser | Pro | Thr | Gly | 11e | Asp | Phe | Ser | Asp | lle | Thr | Ala | Asn | Ser | Phe |
| | | | | 95 | | | | | 100 | | | | | 105 |
| Thr | Val | His | Trp | Пе | Ala | Pro | Arg | Ala | Thr | ile | Thr | Gly | Tyr | Arg |
| | | | | 110 | | | | | 115 | | | | | 120 |
| lle | Arg | His | His | Pro | Glu | His | Phe | Ser | Gly | Arg | Pro | Arg | Glu | Asp |
| | | | | 125 | | | | | 130 | | | | | 135 |
| Arg | Val | Pro | His | Ser | Arg | Asn | Ser | Пe | Thr | Leu | Thr | Asn | Leu | Thr |
| | | | | 140 | | | | | 145 | | | | | 150 |
| Pro | Gly | Thr | Glu | Tyr | Val | Val | Ser | Пe | Val | Ala | Leu | Asn | Gly | Arg |
| | | | | 155 | | | | | 160 | | | | | 165 |
| Glu | Glu | Ser | Pro | Leu | Leu | lle | Gly | GIn | GIn | Ser | Thr | Val | Ser | Asp |
| | | | | 170 | | | | | 175 | | | | | 180 |
| Val | Pro | Arg | Asp | Leu | Glu | Val | Val | Ala | Ala | Thr | Pro | Thr | Ser | Leu |
| | | | | 185 | | | | | 190 | | | | | 195 |
| Leu | lle | Ser | Trp | Asp | Ala | Pro | Ala | V a ! | Thr | Val | Arg | Tyr | Tyr | Arg |
| | | | | 200 | | | | | 205 | | | | | 210 |
| lle | Thr | Tyr | Gly | Glu | Thr | Gly | Gly | Asn | Ser | Pro | Val | Gin | Glu | Phe |
| | | | | 215 | | | | | 220 | | | | | 225 |
| Thr | Val | Pro | Gly | Ser | Lys | Ser | Thr | Ala | Thr | He | Ser | Gly | Leu | Lys |
| | | | | 230 | | | | | 235 | | | | | 240 |
| Pro | Gly | Val | Asp | Tyr | Thr | lle | Thr | Val | Tyr | Ala | Val | Thr | Gly | Arg |
| | | | | 245 | | | | | 250 | | | | | 255 |

Gly Asp Ser Pro Ala Ser Ser Lys Pro 11e Ser 11e Asn Tyr Arg 270 260 265 Thr Glu lle Asp Lys Pro Ser Met Ala lle Asp Ala Pro Ser Asn 280 285 275 Leu Arg Phe Leu Ala Thr Thr Pro Asn Ser Leu Leu Val Ser Trp 300 295 290 Gin Pro Pro Arg Ala Arg Ile Thr Gly Tyr Ile Ile Lys Tyr Glu 305 310 315 Lys Pro Gly Ser Pro Pro Arg Glu Val Val Pro Arg Pro Arg Pro 325 330 320 Gly Val Thr Glu Ala Thr lie Thr Gly Leu Glu Pro Gly Thr Glu 340 345 335 Tyr Thr lie Tyr Val lie Ala Leu Lys Asn Asn Gin Lys Ser Glu-350 355 360 Pro Leu Ile Gly Arg Lys Lys Thr 365

<210> 17

<211> 370

<212> PRT

<213> Artificial Sequence

<220>

<223> fibronectin fragment named CHV-92

| Pro | Thr | Asp | Leu | Arg | Phe | Thr | Asn | lle | Gly | Pro | Asp | Thr | Met | Arg |
|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-----|-----|-----|
| 1 | | | | 5 | | | | | 10 | | | | | 15 |
| Val | Thr | Trp | Ala | Pro | Pro | Pro | Ser | lle | Asp | Leu | Thr | Asn | Phe | Leu |
| | | | | 20 | | | | | 25 | | | | | 30 |
| Val | Arg | Tyr | Ser | Pro | Val | Lys | Asn | Glu | Glu | Asp | Val | Ala | Glu | Leu |
| | | | | 3 5 | | | | | 40 | | | | | 45 |
| Ser | Пе | Ser | Pro | Ser | Asp | Asn | Ala | V a I | Val | Leu | Thr | Asn | Leu | Leu |
| | | | | 50 | | | | | 55 | | | | | 60 |
| Pro | Gly | Thr | Glu | Tyr | Val | Val | Ser | Val | Ser | Ser | Val | Tyr | Glu | Gin |
| | | | | 6 5 | | | | | 70 | | | | | 75 |
| His | Glu | Ser | Thr | Pro | Leu | Arg | Gly | Arg | GIn | Lys | Thr | Gly | Leu | Asp |
| | | | | 80 | | | | | 85 | | | | | 90 |
| Ser | Pro | Thr | Gly | He | Asp | Phe | Ser | Asp | lle | Thr | Ala | Asn | Ser | Phe |
| | | | | 95 | | | | | 100 | | | | | 105 |
| Thr | Val | His | Trp | lle | Ala | Pro | Arg | Ala | Thr | lle | Thr | Gly | Tyr | Arg |
| | | | | 110 | | | | | 115 | | | | | 120 |
| lle | Arg | His | His | Pro | Glu | His | Phe | Ser | Gly | Arg | Pro | Arg | Glu | Asp |
| | | | | 125 | | | | | 130 | | | | | 135 |
| Arg | Val | Pro | His | Ser | Arg | Asn | Ser | lle | Thr | Leu | Thr | Asn | Leu | |
| | | | | 140 | | | | | 145 | | | | | 150 |
| Pro | Gly | Thr | Giu | | Vai | Val | Ser | He | | Ala | Leu | Asn | Gly | |
| | | | | 155 | | | | | 160 | | | | | 165 |
| Glu | Glu | Ser | Pro | | Leu | lle | Gly | Gin | | Ser | Thr | Val | Ser | |
| | _ | | | 170 | | | | | 175 | | _ | | | 180 |
| Val | Pro | Arg | Asp | Leu | Glu | Val | Val | Ala | Ala | Thr | Pro | Thr | Ser | Leu |

| | | | | 185 | | | | | 190 | | | | | 195 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|
| Leu | lle | Ser | Trp | Asp | Ala | Pro | Ala | Val | Thr | Val | Arg | Tyr | Tyr | Arg |
| | | | | 200 | | | | | 205 | | | | | 210 |
| Пe | Thr | Tyr | Gly | Glu | Thr | Gly | Gly | Asn | Ser | Pro | Val | GIn | Glu | Phe |
| | | | | 215 | | | | | 220 | | | | | 225 |
| Thr | Val | Pro | Gly | Ser | Lys | Ser | Thr | Ala | Thr | He | Ser | Gly | Leu | Lys |
| | | | | 230 | | | | | 235 | | | • | | 240 |
| Pro | Gly | Val | Asp | Tyr | Thr | He | Thr | Val | Tyr | Ala | Val | Thr | Gly | Arg |
| | | | | 245 | | | | | 250 | | | | | 255 |
| Gly | Asp | Ser | Pro | Ala | Ser | Ser | Lys | Pro | ile | Ser | ile | Asn | Tyr | Arg |
| | | | | 260 | | | | | 265 | | | | | 270 |
| Thr | Glu | lle | Asp | Lys | Pro | Ser | Met | Ala | lle | Pro | Ala | Pro | Thr | Asp |
| | | | | 275 | | | | | 280 | | | | | 285 |
| Leu | Lys | Phe | Thr | Gln | Val | Thr | Pro | Thr | Ser | Leu | Ser | Ala | GIn | Trp |
| | | | | 290 | | | | | 295 | | | | | 300 |
| Thr | Pro | Pro | Asn | Val | Gin | Leu | Thr | Gly | Tyr | Arg | V a I | Arg | Val | Thr |
| | | | | 305 | | | | | 310 | | | | | 315 |
| Pro | Lys | Glu | Lys | | Gly | Pro | Met | Lys | | lle | Asn | Leu | Ala | |
| | | | | 320 | | | | | 325 | | | | | 330 |
| Asp | Ser | Ser | Ser | | Val | Val | Ser | Gly | | Met | Val | Ala | Thr | |
| | | | | 335 | | | | | 340 | | | | | 345 |
| Tyr | Glu | Val | Ser | | Tyr | Ala | Leu | Lys | | Thr | Leu | Thr | Ser | |
| | | | | 350 | | | | | 355 | | • | | | 360 |
| Pro | Ala | GIn | Gly | | Val | Thr | Thr | Leu | | | | | | |
| | | | | 365 | | | | | 370 | | | | | |

<210> 18

<211> 457

<212> PRT

<213> Artificial Sequence

<220>

<223> fibronectin fragment named CHV-179

<400> 18

Pro Thr Asp Leu Arg Phe Thr Asn IIe Gly Pro Asp Thr Met Arg

1 5 10 15

Val Thr Trp Ala Pro Pro Pro Ser Ile Asp Leu Thr Asn Phe Leu

20 25 30

Val Arg Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu

35 40 45

Ser lle Ser Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu

50 55 60

Pro Gly Thr Glu Tyr Val Val Ser Val Ser Ser Val Tyr Glu Gln

65 70 75

His Glu Ser Thr Pro Leu Arg Gly Arg Gln Lys Thr Gly Leu Asp

80 85 90

Ser Pro Thr Gly Ile Asp Phe Ser Asp Ile Thr Ala Asm Ser Phe

95 100 105

Thr Val His Trp lle Ala Pro Arg Ala Thr lle Thr Gly Tyr Arg

110 115 120

| Пe | Arg | His | His | Pro | Glu | His | Phe | Ser | Gly | Arg | Pro | Arg | Glu | Asp |
|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | | 125 | | | | | 130 | | | | | 135 |
| Arg | V a I | Pro | His | Ser | Arg | Asn | Ser | lle | Thr | Leu | Thr | Asn | Leu | Thr |
| | | | | 140 | | | | | 145 | | | | | 150 |
| Pro | Gly | Thr | Glu | Tyr | Val | Val | Ser | 11e | Val | Ala | Leu | Asn | Gly | Arg |
| | | | | 155 | | | | | 160 | | | | | 165 |
| Glu | Glu | Ser | Pro | Leu | Leu | lle | Gly | GIn | Gln | Ser | Thr | Val | Ser | Asp |
| | | | | 170 | | | | | 175 | | | | | 180 |
| Val | Pro | Arg | Asp | Leu | Glu | Vai | Val | Ala | Ala | Thr | Pro | Thr | Ser | Leu |
| | | | | 185 | | | | | 190 | | | | | 195 |
| Leu | He | Ser | Trp | Asp | Ala | Pro | Ala | Val | Thr | Val | Arg | Tyr | Tyr | Arg |
| | | | | 200 | | | | | 205 | | | | | 210 |
| lle | Thr | Tyr | Gly | Glu | Thr | Gly | Gly | Asn | Ser | Pro | Val | Gln | Glu | Phe |
| | | | | 215 | | | | | 220 | | | | | 225 |
| Thr | Val | Pro | Gly | Ser | Lys | Ser | Thr | Ala | Thr | lle | Ser | Gly | Leu | Lys |
| | | | | 230 | | | | | 235 | | | | | 240 |
| Pro | Gly | Val | Asp | Tyr | Thr | lle | Thr | Val | Tyr | Ala | Vai | Thr | Gly | Arg |
| | | | | 245 | | | | | 250 | | | | | 255 |
| Gly | Asp | Ser | Pro | Ala | Ser | Ser | Lys | Pro | lle | Ser | Пе | Asn | Tyr | Arg |
| | | | | 260 | | | | | 265 | | | | | 270 |
| Thr | Glu | lle | Asp | Lys | Pro | Ser | Met | Asn | Val | Ser | Pro | Pro | Arg | Arg |
| | | | | 275 | | | | | 280 | | | | | 285 |
| Ala | Arg | Val | Thr | Asp | Ala | Thr | Glu | Thr | Thr | lle | Thr | lle | Ser | Trp |
| | | | | 290 | | | | | 295 | | | | | 300 |
| Arg | Thr | Lys | Thr | Glu | Thr | Пe | Thr | Gly | Phe | Gln | Val | Asp | Ala | Val |
| | | | | 305 | | | | | 310 | | | | | 315 |

Pro Ala Asn Gly Gln Thr Pro IIe Gln Arg Thr IIe Lys Pro Asp Val Arg Ser Tyr Thr Ile Thr Gly Leu Gln Pro Gly Thr Asp Tyr Lys lle Tyr Leu Tyr Thr Leu Asn Asp Asn Ala Arg Ser Ser Pro Val Val lle Asp Ala Ser Thr Ala lle Asp Ala Pro Ser Asn Leu Arg Phe Leu Ala Thr Thr Pro Asn Ser Leu Leu Val Ser Trp Gin Pro Pro Arg Ala Arg Ile Thr Gly Tyr Ile Ile Lys Tyr Glu Lys Pro Gly Ser Pro Pro Arg Glu Val Val Pro Arg Pro Arg Pro Gly Val Thr Glu Ala Thr lie Thr Gly Leu Glu Pro Gly Thr Glu Tyr Thr lie Tyr Val lie Ala Leu Lys Asn Asn Gin Lys Ser Glu Pro Leu lie Gly Arg Lys Lys Thr

<211> 459

<210> 19

<212> PRT

<213> Artificial Sequence

$\langle 223 \rangle$ fibronectin fragment named CHV-181

| <40 | 0> 1 | 9 | | | | | | | | | | | | |
|-------|------|-----|-----|-----|-----|-----|-----|-------|-------|-----|-----|-------|-----|-----|
| Pro | Thr | Asp | Leu | Arg | Phe | Thr | Asn | Пe | Gly | Pro | Asp | Thr | Met | Arg |
| 1 | | | | 5 | | | | | 10 | | | | | 15 |
| Val | Thr | Trp | Ala | Pro | Pro | Pro | Ser | He | Asp | Leu | Thr | Asn | Phe | Leu |
| | | | | 20 | | | | | 25 | | | | | 30 |
| Val | Arg | Tyr | Ser | Pro | Val | Lys | Asn | Glu | Glu | Asp | Val | A I,a | Glu | Leu |
| | | | | 3 5 | | | | | 40 | | | | | 45 |
| Ser | lle | Ser | Pŗo | Ser | Asp | Asn | Ala | V a 1 | V a I | Leu | Thr | Asn | Leu | Leu |
| | | | | 50 | | | | | 55 | | | | | 60 |
| Pro | Gly | Thr | Glu | Tyr | Val | Val | Ser | V a I | Ser | Ser | Val | Tyr | Glu | Gln |
| | | | | 65 | | | | | 70 | | | | | 75 |
| His | Glu | Ser | Thr | Pro | Leu | Arg | Gly | Arg | Gln | Lys | Thr | Gly | Leu | Asp |
| | | | | 80 | | | | | 85 | | | | | 90 |
| Ser | Pro | Thr | Gly | Пе | Asp | Phe | Ser | Asp | lle | Thr | Ala | Asn | Ser | Phe |
| | | | | 95 | | | | | 100 | | | | | 105 |
| Thr | Val | His | Trp | lle | Ala | Pro | Arg | Ala | Thr | lle | Thr | Gly | Tyr | Arg |
| | | | | 110 | | | | | 115 | | | | | 120 |
| l l e | Arg | His | His | Pro | Glu | His | Phe | Ser | Gly | Arg | Pro | Arg | Glu | Asp |
| | | | | 125 | | | | | 130 | | | | | 135 |
| Arg | Val | Pro | His | Ser | Arg | Asn | Ser | lle | Thr | Leu | Thr | Asn | Leu | Thr |
| | | | | 140 | | | | | 145 | | | | | 150 |

Pro Gly Thr Glu Tyr Val Val Ser Ile Val Ala Leu Asn Gly Arg

| | | | | 155 | | | | | 160 | | | | | 165 |
|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-----|-------|-----|-----|-----|
| Glu | Glu | Ser | Pro | Leu | Leu | Пe | Gly | GIn | GIn | Ser | Thr | Val | Ser | Asp |
| | | | | 170 | | | | | 175 | | | | | 180 |
| Val | Pro | Arg | Asp | Leu | Glu | V a I | Val | Ala | Ala | Thr | Pro | Thr | Ser | Leu |
| | | | | 185 | | | | | 190 | | | | | 195 |
| Leu | lle | Ser | Trp | Asp | Ala | Pro | Ala | Val | Thr | Val | Arg | Tyr | Tyr | Arg |
| | | | | 200 | • | | | | 205 | | | | | 210 |
| Пe | Thr | Tyr | Giy | Glu | Thr | Gly | Giy | Asn | Ser | Pro | Val | GIn | Glu | Phe |
| | | | | 215 | | | | | 220 | | | | | 225 |
| Thr | Val | Pro | Giy | Ser | Lys | Ser | Thr | Ala | Thr | Пe | Ser | Gly | Leu | Lys |
| | | | | 230 | | | | | 235 | | | | | 240 |
| Pro | Gly | Val | Asp | Tyr | Thr | l l e | Thr | Val | Tyr | Ala | Val | Thr | Gly | Arg |
| | | | | 245 | | | | | 250 | | | | | 255 |
| Gly | Asp | Ser | Pro | Ala | Ser | Ser | Lys | Pro | lle | Ser | lle | Asn | Tyr | Arg |
| | | | | 260 | | | | | 265 | | | | | 270 |
| Thr | Glu | He | Asp | Lys | Pro | Ser | Met | Ala | lle | Pro | Ala | Pro | Thr | Asp |
| | | | | 275 | | | | | 280 | | | | | 285 |
| Leu | Lys | Phe | Thr | Gin | Val | Thr | Pro | Thr | Ser | Leu | Ser | Ala | GIn | Trp |
| | | | | 290 | | | | | 295 | | | | | 300 |
| Thr | Pro | Pro | Asn | Val | GIn | Leu | Thr | Gly | Tyr | Arg | V a I | Arg | Val | Thr |
| | | | | 305 | | | | | 310 | | | | | 315 |
| Pro | Lys | Glu | Lys | Thr | Gly | Pro | Met | Lys | Glu | lle | Asn | Leu | Ala | Pro |
| | | | • | 320 | | | | | 325 | | | | | 330 |
| Asp | Ser | Ser | Ser | Val | Val | Val | Ser | Gly | | Met | Val | Ala | Thr | Lys |
| | | | | 335 | | | | | 340 | | | | | 345 |
| Tyr | Glu | Val | Ser | Val | Tyr | Ala | Leu | Lys | Asp | Thr | Leu | Thr | Ser | Arg |

350 355 360 Pro Ala Gin Gly Val Val Thr Thr Leu Glu Asn Val Ser Pro Pro 370 375 365 Arg Arg Ala Arg Val Thr Asp Ala Thr Glu Thr Thr lle Thr lle 380 385 390 Ser Trp Arg Thr Lys Thr Glu Thr IIe Thr Gly Phe Gln Val Asp 395 400 405 Ala Val Pro Ala Asn Gly Gln Thr Pro Ile Gln Arg Thr lle Lys 410 415 420 Pro Asp Val Arg Ser Tyr Thr lle Thr Gly Leu Gln Pro Gly Thr 430 435 425 Asp Tyr Lys lie Tyr Leu Tyr Thr Leu Asn Asp Asn Ala Arg Ser 440 445 450 Ser Pro Val Val IIe Asp Ala Ser Thr

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<212> PRT

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455

<220>

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<400> 20

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| 1 | | | | 5 | | | | | 10 | | | | | 15 |
| Gin | Val | Thr | Pro | Thr | Ser | Leu | Ser | Ala | GIn | Trp | Thr | Pro | Pro | Asn |
| | | | | 20 | | | | | 25 | | | | | 30 |
| Val | Gln | Leu | Thr | Gly | Tyr | Arg | Val | Arg | Val | Thr | Pro | Lys | Glu | Lys |
| | | | | 35 | | | | | 40 | | | | | 45 |
| Thr | Gly | Pro | Met | Lys | Glu | He | Asn | Leu | Ala | Pro | Asp | Ser | Ser | Ser |
| | | | | 50 | | | | | 55 | | | | | 60 |
| Val | Val | V a I | Ser | Gly | Leu | Met | V a I | Ala | Thr | Lys | Tyr | Glu | Val | Ser |
| | | | | 65 | | | | | 70 | | | | | 75 |
| Val | Tyr | Ala | Leu | Lys | Asp | Thr | Leu | Thr | Ser | Arg | Pro | Ala | GIn | Gly |
| | | | | 80 | | | | | 85 | | | | | 90 |
| Val | Val | Thr | Thr | Leu | Glu | Asn | Val | Ser | Pro | Pro | Arg | Arg | Ala | Arg |
| | | | | 95 | | | | | 100 | | | | | 105 |
| Val | Thr | Asp | Ala | Thr | Glu | Thr | Thr | lle | Thr | lle | Ser | Trp | Arg | Thr |
| | | | | 110 | | | | | 115 | | | | | 120 |
| Lys | Thr | Glu | Thr | lle | Thr | Gly | Phe | Gln | V a 1 | Asp | Ala | Val | Pro | Ala |
| | | | | 125 | | | | | 130 | | | | | 135 |
| Asn | Gly | Gin | Thr | Pro | lle | GIn | Arg | Thr | He | Lys | Pro | Asp | Val | Arg |
| | | | | 140 | | | | | 145 | | | | | 150 |
| Ser | Tyr | Thr | 1 l e | Thr | Gly | Leu | Gln | Pro | | Thr | Asp | Tyr | Lys | lle |
| | | | | 155 | | | | | 160 | | | | | 165 |
| Tyr | Leu | Tyr | Thr | | Asn | Asp | Asn | Ala | | Ser | Ser | Pro | Val | Val |
| | | | | 170 | | | | | 175 | | | | | 180 |
| ile | Asp | Ala | Ser | | Ala | lle | Asp | Ala | | Ser | Asn | Leu | Arg | |
| | | | | 185 | | | | | 190 | | | | | 195 |

Leu Ala Thr Thr Pro Asn Ser Leu Leu Val Ser Trp Gln Pro Pro
200 205 210

Arg Ala Arg lie Thr Gly Tyr lie lie Lys Tyr Glu Lys Pro Gly

215 220 225

Ser Pro Pro Arg Glu Val Val Pro Arg Pro Arg Pro Gly Val Thr

230 235 240

Glu Ala Thr lle Thr Gly Leu Glu Pro Gly Thr Glu Tyr Thr lle

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Tyr Val lie Ala Leu Lys Asn Asn Gln Lys Ser Glu Pro Leu lle

260 265 270

Gly Arg Lys Lys Thr Cys

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38

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<212> DNA

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| - | 1 |
| O | ı |
| | |

| Glu | Tyr | V a I | Val | Ser | V a I | Ser | Ser | V a I | Tyr | Glu | GIn | His | Glu | Ser | Thr |
|-----|-----|-------|-----|-----|-------|-----|-----|-------|-----|-----|-------|-------|-------|-----|-----|
| 6 5 | | | | | 70 | | | | | 75 | | • | | | 80 |
| Pro | Leu | Arg | Gly | Arg | Gln | Lys | Thr | Gly | Leu | Asp | Ser | Pro | Thr | Gly | Пe |
| | | | • | 85 | | | | | 90 | | | | | 95 | |
| Asp | Phe | Ser | Asp | lle | Thr | Ala | Asn | Ser | Phe | Thr | V a I | His | Trp | lle | Ala |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Pro | Arg | Ala | Thr | lle | Thr | Gly | Tyr | Arg | lle | Arg | His | His | Pro | Glu | His |
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| Phe | Ser | Gly | Arg | Pro | Arg | Glu | Asp | Arg | Val | Pro | His | Ser | Arg | Asn | Ser |
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| He | Thr | Leu | Thr | Asn | Leu | Thr | Pro | Gly | Thr | Glu | Tyr | Val | V a I | Ser | Пe |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Val | Ala | Leu | Asn | Gly | Arg | Glu | Glu | Ser | Pro | Leu | Leu | Пe | Gly | Gln | GIn |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Ser | Thr | Val | Ser | Asp | Val | Pro | Arg | Asp | Leu | Glu | Val | V a I | Ala | Ala | Thr |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Pro | Thr | Ser | Leu | Leu | Пe | Ser | Trp | Asp | Ala | Pro | Ala | Val | Thr | Val | Arg |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Tyr | Tyr | Arg | lle | Thr | Tyr | Gly | Glu | Thr | Gly | Gly | Asn | Ser | Pro | Val | Gln |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Glu | Phe | Thr | Val | Pro | Gly | Ser | Lys | Ser | Thr | Ala | Thr | Пe | Ser | Gly | Leu |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Lys | Pro | Gly | Val | Asp | Tyr | Thr | lle | Thr | Val | Tyr | Ala | Val | Thr | Gly | Arg |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Gly | Asp | Ser | Pro | Ala | Ser | Ser | Lys | Pro | lle | Ser | Пe | Asn | Tyr | Arg | Thi |

| | | | 260 | | | | | 265 | | | | | 270 | | |
|-----|-------|-------|-----|-----|-----|-------|-----|-------|-------|-------|-------|-------|-------|-----|-------|
| Glu | I I e | Asp | Lys | Pro | Ser | GIn | Met | GIn | V a I | Thr | Asp | Val | Gln | Asp | Asr |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Ser | Пе | Ser | Val | Lys | Trp | Leu | Pro | Ser | Ser | Ser | Pro | V a I | Thr | Gly | Туг |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Arg | Val | Thr | Thr | Thr | Pro | Lys | Asn | Gly | Pro | Gly | Pro | Thr | Lys | Thr | Lys |
| 305 | | | | | 310 | | | | | 315 | • | | | | 320 |
| Thr | Ala | G ! y | Pro | Asp | GIn | Thr | Glu | Met | Thr | Пe | Glu | Gly | Leu | Gln | Pro |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Thr | Val | Glu | Tyr | Val | Val | Ser | Val | Tyr | Ala | GIn | Asn | Pro | Ser | Gly | GΙι |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Ser | Gln | Pro | Leu | Val | GIn | Thr | Ala | V a I | Thr | Ala | lle | Pro | Ala | Pro | Thr |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Asp | Leu | Lys | Phe | Thr | Gln | V a I | Thr | Pro | Thr | Ser. | Leu | Ser | Ala | Gln | Trp |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Thr | Pro | Pro | Asn | Val | GIn | Leu | Thr | Gly | Tyr | Arg | V a I | Arg | V a I | Thr | Pro |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Lys | Glu | Lys | Thr | Gly | Pro | Met | Lys | Glu | lle | Asn | Leu | Ala | Pro | Asp | Ser |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Ser | Ser | Val | Val | Val | Ser | Gly | Leu | Met | Val | A I a | Thr | Lys | Tyr | Glu | Val |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Ser | V a I | Tyr | Ala | Leu | Lys | Asp | Thr | Leu | Thr | Ser | Arg | Pro | Ala | Gln | Gly |
| | | 435 | | | | | 440 | | | | | 445 | | | |
| Val | Val | Thr | Thr | Leu | Glu | Asn | Val | Ser | Pro | Pro | Arg | Arg | Ala | Arg | V a I |
| | 450 | | | | | 455 | | | | | 460 | | | | |
| Thr | Asp | Ala | Thr | Glu | Thr | Thr | Пe | Thr | Пе | Ser | Trp | Arg | Thr | Lys | Thr |

| 465 | | | | | 470 | • | | | | 475 | | | | | 480 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|-----|-------|-----|-----|
| Glu | Thr | Пe | Thr | Gly | Phe | GIn | Val | Asp | Ala | Val | Pro | Ala | Asn | Gly | GIn |
| | | | | 485 | | | | | 490 | | | | | 495 | |
| Thr | Pro | lle | GIn | Arg | Thr | 11e | Lys | Pro | Asp | Val | Arg | Ser | Tyr | Thr | lle |
| | | | 500 | | | | | 505 | | | | | 510 | | |
| Thr | Gly | Leu | Gin | Pro | Gly | Thr | Asp | Tyr | Lys | lle | Tyr | Leu | Tyr | Thr | Leu |
| | | 515 | | | | | 520 | | | | | 525 | | | |
| Asn | Asp | Asn | Ala | Arg | Ser | Ser | Pro | Val | Val | I I e | Asp | Ala | Ser | Thr | Ala |
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| 545 | | | | | 550 | | | | | 555 | | | | | 560 |
| Leu | Leu | Val | Ser | Trp | Gln | Pro | Pro | Arg | Ala | Arg | lle | Thr | Gly | Tyr | lle |
| | | | | 565 | | | | | 570 | | | | | 575 | |
| Пe | Lys | Tyr | Glu | Lys | Pro | Gly | Ser | Pro | Pro | Arg | Glu | Val | V a I | Pro | Arg |
| | | | 580 | | | | | 585 | | | | | 590 | | |
| Pro | Arg | Pro | Gly | Val | Thr | Glu | Ala | Thr | lle | Thr | Giy | Leu | Glu | Pro | Gly |
| | | 595 | | | | | 600 | | | | | 605 | | | |
| Thr | Glu | Tyr | Thr | ile | Tyr | Val | He | Ala | Leu | Lys | Asn | Asn | Gln | Lys | Ser |
| | 610 | | | | | 615 | | | | | 620 | | | | |
| Glu | Pro | Leu | lle | Gly | Arg | Lys | Lys | Thr | Asp | Glu | Leu | Pro | Gln | Leu | Val |
| 625 | | | | | 630 | | | | | 635 | | | | | 640 |
| Thr | Leu | Pro | His | Pro | Asn | Leu | His | Gly | Pro | Glu | lle | Leu | Asp | Val | Pro |
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<212> DNA

<213> Artificial Sequence

<220>

<223> polynuleotide coding CH-296Na

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aaaactgcag gtccagatca aacagaaatg actattgaag gcttgcagcc cacagtggag 1020 1080 tatgtggtta gtgtctatgc tcagaatcca agcggagaga gtcagcctct ggttcagact 1140 gcagtaaccg ctattcctgc accaactgac ctgaagttca ctcaggtcac acccacaagc 1200 ctgagcgccc agtggacacc acccaatgtt cagctcactg gatatcgagt gcgggtgacc cccaaggaga agaccggacc aatgaaagaa atcaaccttg ctcctgacag ctcatccgtg 1260 gttgtatcag gacttatggt ggccaccaaa tatgaagtga gtgtctatgc tcttaaggac 1320 acttigacaa gcagaccagc tcagggtgtt gtcaccactc tggagaatgt cagcccacca 1380 agaagggctc gtgtgacaga tgctactgag accaccatca ccattagctg gagaaccaag 1440 actgagacga tcactggctt ccaagttgat gccgttccag ccaatggcca gactccaatc 1500 cagagaacca tcaagccaga tgtcagaagc tacaccatta caggtttaca accaggcact 1560 gactacaaga totacotgta cacottgaat gacaatgoto ggagotocoo tgtggtcato 1620 1680 gacgcctcca ctgccattga tgcaccatcc aacctgcgtt tcctggccac cacacccaat 1740 tccttgctgg tatcatggca gccgccacgt gccaggatta ccggctacat catcaagtat gagaagcctg ggtctcctcc cagagaagtg gtccctcggc cccgccctgg tgtcacagag 1800 gctactatta ctggcctgga accgggaacc gaatatacaa tttatgtcat tgccctgaag 1860 1920 aataatcaga agagcgagcc cctgattgga aggaaaaaga cagacgagct tccccaactg gtaacccttc cacaccccaa tcttcatgga ccagagatct tggatgttcc ttccacataa 1980 1989 tagaagctt

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<223> Primer CH-296Na2

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23

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22